

Abstract of the Disclosure

The invention relates to a storage structure having a fluid transfer boom for transfer of cryogenic liquids such as liquified natural gas (LNG) from a first storage structure to a vessel. The boom has two arms which are rotatably connected at their first ends via a swivel joint. In one embodiment a liquified natural gas duct is supported within the first and second arms which form a gas tight housing around the liquified natural gas duct. The transfer boom according to the present invention provides a redundant containment system wherein the LNG duct is supported by the structurally strong and self-supporting transfer boom which confines the natural gas in case of a leak in the inner LNG duct. In a further embodiment the transfer boom comprises seven swivel joints in total such that rotation in all directions is possible when the vessel is moored to the storage structure and has to cope with relative motions of roll, pitch, yaw, heave, sway and surge. The first arm may be suspended from the storage structure in a generally vertical direction, the second arm extending between the first end of the first arm and the vessel in a generally horizontal direction. Hereby a reliable, self-supporting construction can be achieved without the use of counterweight or tensioning cables for the vertical arm. Preferably the swivel joints are each of a substantially similar construction such that the costs of manufacture can be reduced. Another embodiment provides for the inner LNG duct being provided with leak containment means and with deformable wall parts for allowing thermal expansion.